

Amendment

In the Claims

1-9. (cancelled)

10. (currently amended) A method for making a polymer in a biological system comprising

providing one or more substrates selected from the group consisting of 3-hydroxybutyrate, 3-hydroxypropionate, 3-hydroxyvalerate, 4-hydroxybutyrate, 4-hydroxyvalerate, 5-hydroxyvalerate, 3-hydroxyhexanoate, 4-hydroxyhexanoate, and 6-hydroxyhexanoate,

wherein the biological system is selected from the group consisting of bacteria, yeast, fungi, and plants; wherein the biological system expresses enzymes selected from the group consisting of polyhydroxyalkanoate synthase, acyl-CoA transferase, hydroxyacyl CoA transferase, and hydroxyacyl CoA synthetase such that a polymer comprising the one or more substrates accumulates, wherein the polymer is selected from the group consisting of poly (3-hydroxypropionate), poly (3-hydroxypropionate-co-5-hydroxyvalerate), poly (3-hydroxybutyrate-co-4-hydroxyvalerate), poly (4-hydroxyvalerate), and poly (5-hydroxyvalerate).

11. (original) The method of claim 10 wherein the organisms express one or more heterologous genes encoding the enzymes.

12. (cancelled)

AMENDMENT AND RESPONSE TO OFFICE ACTION

13. (previously presented) The method of claim 10, wherein the biological system is a bacterium.

14. (previously presented) The method of claim 10, wherein the biological system is a plant.

15. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxypropionate).

16. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxypropionate-co-5-hydroxyvalerate).

17. (previously presented) The method of claim 10, wherein the polymer is poly (3-hydroxybutyrate-co-4-hydroxyvalerate).

18. (previously presented) The method of claim 10, wherein the polymer is poly (4-hydroxyvalerate).

19. (previously presented) The method of claim 10, wherein the polymer is poly (5-hydroxyvalerate).